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Conference Abstract

Digital Construction Kit: 3D Computer Graphics for Creative and Accessible use of Museum Collections

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Abstract

3D is already mainstream for consumers, from Animated movies, VFX, video games, VR, 3D printing to web integration, Facebook support and much more. 3D is also becoming mainstream from the users and creators perspective, as many schools and indeed whole countries integrate it into their core education systems.

The Digital Construction Kit (DCK) addresses significant issues in 3D computer graphics:

- Instead of months of learning, anyone can work with DCK after a few minutes
- DCK is usable in any 3D application across all platforms
- Users can share and adapt workflows and experience between various applications and platforms.

What exactly is the Digital Construction Kit? DCK uses the same principles of a classic construction set but adapted to the 3D digital space. There are 3D elements, materials, and constructions. Creators can combine them in any 3D application to form their own ideas and content/outcomes.

Digital Construction Kit benefits are even more significant in partnership with a museum for example. In our case the contribution is significant in many areas, some being:

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- DCK elements provided by museums have a clear history, origin, and much additional information, that allows users to study them in greater depth and to understand them as never before.
- DCK can be used in museums for interactive play, exploration, collecting and many other forms of audience engagement.
- Visitors can access elements from DCK during exhibitions, bring them home and re-use them. In other words, a museum can provide added value for the visitor who actively uses it and may even encourage return visits to the museum.
- Communities can exchange DCK elements and expand the reach of the museum across continents.

It has never been easier to get the necessary creation tools and publish 3D works - for free! There are millions of active users in communities using tools like Blender or Unity, focused primarily on 3D. The motivation behind the Digital Construction Kit is to make their lives easier, fun and educate them at the same time.

We will demonstrate how this works. This case study is a collaboration between the National Museum in Prague and the Barbucha Studio, makers of the digital construction kit KUTiLKA (https://blog.barbuchastudio.com/)

Keywords

Digital construction kit, digital 3D objects, creative industry, education, museum collections, 3D applications and software.

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